



## Research for the development of advanced technology for the evaluation of coastal seawater/freshwater interfaces and faults

Groundwater Research Group and Exploration Geophysics Research Group



### 【Outline】

Research commissioned by Japan's Resources and Energy Agency has been launched in the town of Horonobe, Hokkaido, on the high precision elucidation of deep subsurface structure and hydrological environment, and exploration for permanent groundwater stable over ultra-long periods. This research is being conducted jointly by the Groundwater Research Group (deep groundwater survey and wide area groundwater flow analysis) and the Exploration Geophysics Research Group (electromagnetic and seismic exploration on land and shallow sea area).

### 【Details】

In 2007, the first year of this five-year project, we carried out land-based geophysical exploration research and wide area groundwater flow analysis. We also started drilling activities (photo) at the coastal experiment site for research from 2008 onwards. Once drilling is complete, we plan to conduct single- and cross-borehole tests and investigate test methods for improving the accuracy of outline survey tests. Also this year, we developed a new seafloor electromagnetic exploration tool for shallow sea area. We have high expectations for the full-scale research to be conducted from the second year.

### 【Applications】

The results of this research will be integrated with other research conducted by the Japan Atomic Energy Agency and the Central Research Institute of Electric Power Industry to serve as a synthesis of research related to coastal geological disposal.



(top) The research site at Hamasato, Horonobe. 1,000-meter-class observation and experiment boreholes will be drilled 200 meters inland for conducting deep groundwater experiments.

(right) Project leader Atsunao Marui addresses at the ceremony to mark the opening of AIST's Horonobe Office, explaining the outline of AIST's research to representatives from Horonobe Town Hall, Farmers Union, local businesses, and other organizations.

